

sequence (SEQ ID NO: 1) GVTSAPDTRPAPGSTA, contains five O-glycosylation sites, two serines and three threonines, and is an example of a peptide that can be glycosylated according to the present invention to create a glycopeptide library. If all possible glycosylation sites in a tandem repeat are used only once in primary glycosylation with N-acetylgalactosamine (Tn antigen), five different monoglycosylated tandem repeats result, but if glycosylation is randomized between 0 and 5 sites, there are 32 different combinations of glycosylated tandem repeats. If 0 to 5 sialic acids are then randomly added at the 6-position of the existing N-acetylgalactosamines, the possible number of glycoforms increases to 243. These will carry only combinations and varied numbers of Tn and STn. If another donor is added at each glycosylation, e.g., TF along with the first and GlcNAc along with the second, a total of 16807 glycosylation variants of MUC1 tandem repeat will be produced. This library will constitute more than 90% of all truncated versions (core structures) that may be associated with cancerous MUC1 mucin. These are useful as vaccine components.

*B2  
B3  
B4*

*L* Please replace paragraph number 0046 with the following paragraph:

The library of (SEQ ID NO: 2) GSTA glycopeptides modelled on naturally-existing mucins, is small enough that the components can be characterized by mass spectrometry. It is therefore very useful in gaining a precise understanding of glycosylation patterns of the MUC1 core protein, which is necessary in order to design effective therapeutic vaccines and diagnostic tools.

*B3*

*L* Please replace paragraph number 0048 with the following paragraph:

GSTA (SEQ ID NO: 2) is a four amino acid residue of MUC1, which has two unique sites for glycosylation, the serine residue (S) and the threonine residue (T). It is manually synthesized in solution with N-terminal Fmoc and C-terminal benzyl, with serine and threonine hydroxyls free.

*B4*